AMENDMENTS

Claim 1-18 (canceled).

Claim 19 (current). A kit for use in a method for detecting and determining the amount of homocysteine in a sample, comprising in a packaged combination: a first reagent comprising an alkylating reagent having a haloketone or alpha haloaldehyde functional group, the carbonyl of said haloketone or alpha haloaldehyde functional group derivatized with a protected functional group said protected functional group capable of reacting with the sulfhydryl group of homocysteine to form modified homocysteine when said protected functional group is deprotected, a second reagent comprising an activating reagent capable of deprotecting said alkylating reagent by removal of the protected functional group, and a third reagent capable of specifically binding to said modified homocysteine, each in an amount sufficient to conduct at least one assay.

Claim 20 (canceled).

Claim 21 (current). The kit of claim 19, wherein said first reagent further comprises a homocysteine disulfide reducing agent.

Claim 22 (current). The kit of claim 19, wherein said first reagent further comprises a solid matrix coated with modified homocysteine.

Claim 23 (current). The kit of claim 22, wherein said solid matrix comprises latex or glass beads.

Claim 24 (amended). The kit of claim ~~20~~ 19 wherein said protected haloketone is CABA ~~or BABA~~.

Claim 25 (amended). The kit of claim 19, wherein said second reagent is ~~further comprises~~ a phosphatase.
Claim 26 (current). The kit of claim 25 wherein said phosphatase is alkaline phosphatase.
Claim 27 (current). The kit of claim 19, wherein said second reagent further comprises a solid matrix coated with a receptor capable of specifically binding modified homocysteine.
Claim 28 (current). The kit of claim 27, wherein said receptor is an antibody or an immunologically active fragment thereof.
Claim 29 (current). The kit of claim 22 or 27, wherein said matrix further includes a signaling agent affixed thereto.
Claim 30 (current). The kit of claim 29, wherein said signaling agent comprises a chemiluminescent agent, a fluorescent agent, or a chromogenic agent.
Claim 31 (canceled).

Claim 32(current). A method of determining the amount of homocysteine in a sample suspected of containing said homocysteine, comprising the steps of:

(a) bringing together in an aqueous medium:
    (1) said sample,
    (2) a first reagent comprising an alkylating reagent having a haloketone or alpha haloaldehyde functional group, the carbonyl of said haloketone or alpha haloaldehyde functional group derivatized with a protected functional group capable of being activated to chemically modify the sulfhydryl groups of homocysteine to form modified homocysteine, and

(3) a second reagent comprising an antibody capable of specifically binding to said modified homocysteine to from an immunocomplex; and

(4) a third reagent capable of activating said protected alkylating reagent.

(b) measuring the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.

Claim 33 (current). The method of claim 32, wherein said first reagent further comprises a disulfide reducing agent.

Claims 34-36 (canceled).

Claim 37 (current). The method of claim 32, wherein said third reagent is a phosphatase.

Claim 38 (current). The method of claim 37, wherein said phosphatase is alkaline phosphatase.

Claim 39 (current). The method of claim 32, wherein said first reagent further comprises a solid matrix coated with hcy-ABA.

Claim 40 (current). The method of claim 32, wherein said first reagent further comprises a solid matrix coated with a receptor capable of binding modified homocysteine.

Claim 41 (current). The method of claim 39 or 40, wherein said solid matrix comprises latex or glass beads.

Claim 42 (current). The method of claim 39 or 40, wherein said solid matrix comprises a microtiter plate.

Claim 43 (canceled).

Claim 44 (current). A method of determining the amount of homocysteine in a sample, wherein at least a portion of said homocysteine is in the free disulfide form, comprising the steps of:

(a) preparing an admixture comprising:

(1) said sample,

(2) a releasing agent to release said homocysteine from the disulfide form,

(3) an alkylating reagent having a haloketone or alpha haloaldehyde functional group, the carbonyl of said haloketone or alpha haloaldehyde function group derivatized with a protected functional group capable of being activated to chemically modify the sulfhydryl groups of homocysteine to form modified homocysteine, and

(4) an antibody capable of specifically binding to said modified homocysteine to form an immunocomplex, and

(5) an activating reagent capable of deprotecting said protected functional group of said alkylating reagent; and

(b) examining said medium for the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.

Claim 45 (canceled).

Claim 46 (canceled on 10/02/01).

Claim 47-56 (canceled).